



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,533	07/22/2003	Eric R. Fossum	M4065.0841/P841-A	4895
24998	7590	08/29/2006	EXAMINER	
DICKSTEIN SHAPIRO LLP			SEFER, AHMED N	
1825 EYE STREET NW			ART UNIT	
Washington, DC 20006-5403			PAPER NUMBER	

2826

DATE MAILED: 08/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/623,533	Applicant(s) FOSSUM ET AL.	
	Examiner A. Sefer	Art Unit 2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22,24,25,27-33 and 53-58 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 22,24,25 and 27-33 is/are allowed.
6) ☒ Claim(s) 53-58 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed June 12, 2006 has been entered; no new claims have been introduced.

Allowable Subject Matter

2. The indicated allowability of claims 53-58 is withdrawn in view of the newly discovered reference(s) to Kawahara et al. ("Kawahara") USPN 6,618,086. Rejections based on the newly cited reference(s) follow.
3. Claims 22, 24, 25 and 27-33 are allowed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 53, 54 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara in view of Nakashiba USPN 6,498,622.

Kawahara discloses in figs. 1-3 forming a photosensor in a substrate 101, the photosensor for forming charges in response to applied light; forming a first well region 103 in the substrate, the first well region being separated from the photosensor and being doped to a first conductivity type; forming a storage region 104 located in a first well region, the storage region for collecting

Art Unit: 2826

charge generated by the photosensor and being doped to a second conductivity type, but lacks anticipation of a shielding layer over the storage region.

Nakashiba discloses in fig. 4 a photosensor including shielding at least a portion of a storage region 206 by forming a shielding layer 200 over the storage region.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Kawahara's photosensor by incorporating a shielding layer since that would provide a high voltage output as taught by Nakashiba.

Regarding claim 54, Kawahara discloses (col. 5, lines 2-4) the storage region comprising a p-type region and the first well region comprises an n-well.

Regarding claim 58, Kawahara discloses forming a photosensor comprising one of forming a photodiode.

6. Claims 53-55 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara in view of Merrill USPN 5,965,875.

Kawahara discloses in figs. 1-3 forming a photosensor in a substrate 101, the photosensor for forming charges in response to applied light; forming a first well region 103 or n-well (as in claim 56) in the substrate, the first well region being separated from the photosensor and being doped to a first conductivity type; forming a storage region 104 located in a first well region, the storage region for collecting charge generated by the photosensor and being doped to a second conductivity type, but lacks anticipation of a shielding layer over the storage region.

Merrill discloses (col. 4, lines 23-25 and figs. 12 and 13) a photosensor located within a well region or n-well (as in claims 55 and 56) including shielding at least a portion of a storage

Art Unit: 2826

region (**region under the shield**) by forming a shielding layer (unnumbered) over the storage region.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Kawahara's photosensor by incorporating a shielding layer since that would allow light to strike the photosensor region.

Regarding claim 54, Kawahara discloses (col. 5, lines 2-4) the storage region comprising a p-type region and the first well region comprises an n-well.

Regarding claim 57, Merrill discloses (**col. 4, lines 23-25**) a metal light shield layer over a well region.

Regarding claim 58, Kawahara discloses forming a photosensor comprising one of forming a photodiode.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Sefer whose telephone number is (571) 272-1921.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Application/Control Number: 10/623,533

Page 5

Art Unit: 2826

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

ANS

August 14, 2006